# FEI | Faith Engineering, Inc.

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August 15, 2001

Mr. Nolan Bennett Environmental Health Scientist Bernalillo County Environmental Health Department 600 Second St. NW, Suite 500 Albuquerque, NM 87102 Sent via E-mail: <a href="mailto:nbennett@bernco.gov">nbennett@bernco.gov</a> and US Mail

RE: Transmittal of 3<sup>rd</sup> Quarterly Ground Water Sampling Results

2615 Isleta SW, The Rodgers Drilling Site; NMED/USTB Facility ID No. 11017001 / 30287

Contract Control No. 980473 FEI Project No. 99-01-1186-05

### Dear Nolan:

Please find included herewith the report for the third quarter of ground water sampling and analysis for the subject site. Ground water sampling was conducted on July 2, 2001.

This sampling event provides the sample results with field testing for an abbreviated round of 13 of the 29 ground water monitoring wells on site. During this quarter's sampling event, benzene concentrations above the NMWQCC standard of 10  $\mu$ g/l were found in 3 monitoring wells; W-11, VM-4 and VM-5. Toluene concentrations above the standard of 750  $\mu$ g/l were found in 4 monitoring wells; VM-4, VM-5, VM-7 and FTW-3. Ethylbenzene concentrations above the standard of 750  $\mu$ g/l were found in 6 monitoring wells; W-11, VM-1, VM-4, VM-5, VM-7, and FTW-2. Total xylenes concentrations above the standard of 620  $\mu$ g/l were found in 9 monitoring wells; W-11, VM-1, VM-2, VM-4, VM-5, VM-7, FTW-1, FTW-2 and FTW-3. Total naphthalene concentrations (including naphthalene, 1-methylnaphthalene and 2-methylnaphthalene) above the standard of 30  $\mu$ g/l were found in 10 monitoring wells; W-2, W-11, VM-1, VM-2, VM-4, VM-5, VM-7, FTW-1, FTW-2 and FTW-3.

Faith Engineering, Inc. has submitted a work plan to conduct a Tier 2 evaluation at this site. Please do not hesitate to contact the undersigned if you have any questions or comments regarding this Sampling Report.

Respectfully submitted,

FAITH ENGINEERING, INC.

Stuart E. Faith, PE - President

cc. w/ encls. Mr. Tom Leck - NMED/USTB

Mr. Bill Brown - TPA

# THIRD QUARTERLY SAMPLING REPORT THE RODGER'S DRILLING SITE 2615 ISLETA BLVD. SW ALBUQUERQUE, NEW MEXICO FACILITY #11017001/30287

PREPARED BY:

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**UNDERGROUND STORAGE TANK BUREAU** 

AUGUST 15, 2001

PREPARED FOR:

THE BERNALILLO COUNTY ENVIRONMENTAL HEALTH DEPARTMENT AND
THE NEW MEXICO ENVIRONMENT DEPARTMENT

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Form 1223

Site Name: Rodger's Drilling USTB Facility #30287 Date: 08/15/2001 Page 1

# COVER PAGE FORM 1223 QUARTERLY MONITORING REPORT

Please include the following information:

1. Site name:	Rodger's Drilling
2. Responsible party:	Mr. Nolan Bennett
3. Responsible party maili	ng address (list contact person if different):
	Bernalillo County Environmental Health Dept.
	600 2 <sup>nd</sup> Street NW, Suite 500
	Albuquerque, NM 87102
4. Facility number:	11017001/30287
5. Address/legal descript	ion: 2615 Isleta Blvd. SW
	Albuquerque, NM
6. Author/consulting com	pany: Faith Engineering, Inc.
7. Date of report:	08/15/2001
8. Date of confirmation of	f release or date USTB was notified of the release
	1988

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# STATEMENT OF FAMILIARITY

I, the undersigned, am personally familiar with the information submitted in this report and the attached documents and attest that it is true and complete.

Signature:	
Name:	Stuart Faith
Affiliation:	Faith Engineering, Inc.
Title:	President
Certified Scientist	#:080
Date:	

Date: 08/15/2001 Page 3

### I. INTRODUCTION:

# I. A. Scope of Work

Faith Engineering, Inc. (FEI), in collaboration with Tecumseh Professional Associates, Inc. (TPA), has been retained by the Bernalillo County Environmental Health Department to provide professional environmental services at the Rodger's Drilling site, 2615 Isleta SW, Albuquerque, New Mexico (the Site). The location of the Site is shown on Figure 1. This report documents the third quarter of ground water sampling conducted at the site on July 2, 2001. The period covered in this report is from May 2001 to July 2001.

# I. B. This quarter's highlights

This sampling event represents the third quarter of ground water quality re-examination as outlined in the work plan approval letter dated November 11, 1999, as amended on March 17, 2000 and again on November 17, 2000. The sampling event provides the sample results with field testing for an abbreviated round of 13 of the 29 ground water monitoring wells on site.

### II. ACTIVITIES PERFORMED DURING THIS QUARTER:

# II. A. Brief description of the remediation system and date installed

Initial investigation activities were conducted at the site by Metric in 1989 and 1990 under contract with Rodgers Drilling Inc. Nineteen drive points and 2 hollow stem auger monitor wells were installed in the site vicinity identifying a large dissolved-phase Benzene, Toluene, Ethylbenzene, and Xylenes (BTEX) groundwater plume. In 1991, Metric installed a passive air-inlet soil remediation system at the Site. Five trenches approximately 50 feet in length were excavated to the water table allowing for four-inch diameter PVC slotted screens to be placed horizontally and manifolded to above ground wind turbines. The trenches were back filled with gravel and capped with asphalt. Additionally, 150 cubic yards of soils was reportedly removed from the former UST location.

The Rodgers Site was added to the NMED list of GWPA State Lead remediation projects in 1992. NMED retained Billings and Associates, Inc. (BAI) to evaluate site conditions and implement an enhanced remedial strategy. BAI installed an in-situ SVVS™ remediation system consisting of 2 primary lines of sparge and vent wells. A line of 20 sparge/vent wells are indicated from the BAI site plan as being located along the south side of the Rodgers building. The exact location is unclear and may be located on either side of the Auto Zone/Rodgers property boundary and can only be estimated as all components of this line are buried. An additional 7 sparge/vent wells are located along the north side of theRodgers property and can be located from evidence in the field. The AS/VE system was operated for approximately 3 years prior to shutdown.

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It appears that two source areas are present in the site vicinity; one located in the vicinity of the former USTs on the Rodgers property, and one located north of the site in the vicinity of the former Sparkle Car Wash USTs (see Figure 1). In 1990, approximately 250 yards of hydrocarbon contaminated soil was excavated from the Sparkle UST pit and allowed to aerate on-site. An active horizontal groundwater sparging/passive vadose zone venting system was installed in the excavation pit. This system was operated for approximately 3 months before being turned off.

### II. B. Description of activities performed to keep system operating properly

None. System was shut down in 1997.

# II. C. Monitoring activities performed

Ground water monitoring and sampling at the Site during this quarter took place on July 2, 2001. This quarter's sampling included the following:

- ground water elevation measurements in all wells.
- quarterly event ground water sampling of monitor wells W-2, W-3, W-11, W-14, W-23, VM-1, VM-2, VM-4, VM-5, VM-7, FTW-1, FTW-2, and FTW-3.
- laboratory analysis of ground water samples for Benzene, Toluene, Ethylbenzene, and total Xylenes (BTEX), Methyl-t-Butyl Ether (MTBE), TMB, Ethylene Dibromide (EDB), Ethylene Dichloride (EDC), Naphthalene, 1-Methynaphthalene and 2-Methylnaphthalene by EPA Method 8260 PBMS (expanded naphthalenes) and for polynuclear aromatics (PNAs) by EPA Method 8270 SIMS in wells VM-4 and VM-5
- field testing for natural attenuation indicators of ground water samples, including iron, phosphate, sulfide, nitrate, alkalinity, pH, dissolved oxygen, conductivity, and temperature.

The locations of all monitor wells are shown on Figure 1. Monitoring and sampling procedures are described in Appendix 1. Table 4 provides a historical summary of field activities at the site and Appendix 2 contains this quarter's Field Activity Logs. The laboratory results of the ground water analyses for the current monitoring period are shown on Table 1. Historic ground water sampling results are shown on Tables 2a and 2b. Laboratory reports and the Chain of Custody Form are provided in Appendix 3.

During this quarter's sampling event, benzene concentrations above the NMWQCC standard of 10  $\mu$ g/l were found in 3 monitoring wells; W-11 (5700  $\mu$ g/l), VM-4 (6600  $\mu$ g/l) and VM-5 (4800  $\mu$ g/l). Toluene concentrations above the standard of 750  $\mu$ g/l were found in 4 monitoring wells; VM-4 (2800  $\mu$ g/l), VM-5 (9500  $\mu$ g/l), VM-7 (6900  $\mu$ g/l) and FTW-3 (880  $\mu$ g/l). Ethylbenzene concentrations above the standard of 750  $\mu$ g/l were found in 6 monitoring wells; W-11 (2000  $\mu$ g/l), VM-1 (1400  $\mu$ g/l), VM-4 (2600  $\mu$ g/l), VM-5 (1300  $\mu$ g/l), VM-7 (1600  $\mu$ g/l), and FTW-2 (810  $\mu$ g/l). Total xylenes concentrations above the standard of

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620 μg/l were found in 9 monitoring wells; W-11 (1700 μg/l), VM-1 (1800 μg/l), VM-2 (760 μg/l), VM-4 (5300 μg/l), VM-5 (5400 μg/l), VM-7 (5900 μg/l), FTW-1 (1640 μg/l), FTW-2 (2020 μg/l) and FTW-3 (1680 μg/l). Total naphthalene concentrations (including naphthalene, 1-methylnaphthalene and 2-methylnaphthalene) above the standard of 30 μg/l were found in 10 monitoring wells; W-2, W-11, VM-1, VM-2, VM-4, VM-5, VM-7, FTW-1, FTW-2 and FTW-3. These concentrations ranged from 77 μg/l in FTW-1 to 662 μg/l in VM-1. A total BTEX summary and contour map for the third quarter ground water analysis are shown on Figure 1. In an effort to more realistically characterize the analytical data generated from the quarterly sampling, FEI has adopted a reporting standard of multi-component compounds like total Xylenes (see Appendix 1).

Depth to ground water during this quarter's sampling event varied from 6.62 feet below ground surface (bgs) in wells W-6 to 8.89 feet bgs in well W-14. All ground water elevation data including the historical data is summarized in Table 3. This quarter's measurements of on-site ground water elevations indicate a defined directional flow in a west-southwesterly orientation. A water elevation summary and directional flow map for the third quarter ground water measurements are shown on Figure 2.

# II. D. System performance and effectiveness

Not Applicable, See II. A. and B.

### II. E. Statement verifying containment of release

Based on ground water sample results from site perimeter monitoring wells and the recently completed Hydrogeologic Investigation, containment of off-site ground water contaminants cannot be assured at the Rodger's Drilling Site under present conditions. High levels of dissolved phase hydrocarbons are present in the ground water which extend off-site to the north in the Sparkle Car Wash property and south onto the Auto Zone property. Please refer to Figure 1. Long-term monitoring by the responsible party indicates that the Sparkle Car Wash plume is relatively restricted in size, is partially remediated, and has not co-mingled with the Rodgers Site plume. There is no evidence to suggest additional off-site, up-gradient sources of contaminant for the BTEX concentration levels.

# **III. SUMMARY AND CONCLUSIONS:**

# III. A. Discussion of trends or changes noted in analytical results or site conditions

Laboratory results obtained during this third quarter sampling event and the Hydrogeologic Investigation indicate that BTEX concentrations in the ground water has migrated from the site's former UST location off-site, north to the Sparkle Car Wash property and south to the Auto Zone property. BTEX concentrations are above the NMWQCC standards in monitoring wells adjacent to these properties. Naphthalene concentrations are also above the NMWQCC standard of 30  $\mu$ g/l in monitoring wells W-2, W-

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11, VM-1 and VM-2 at the site's north and south property boundary. The laboratory results of the ground

water shown on Table 1 also indicate that the contaminant plume may be characterized as an older and

weathered petroleum release.

III. B. Ongoing assessment of the remediation system

Not Applicable, See II. A. and B.

III. C. Recommendations

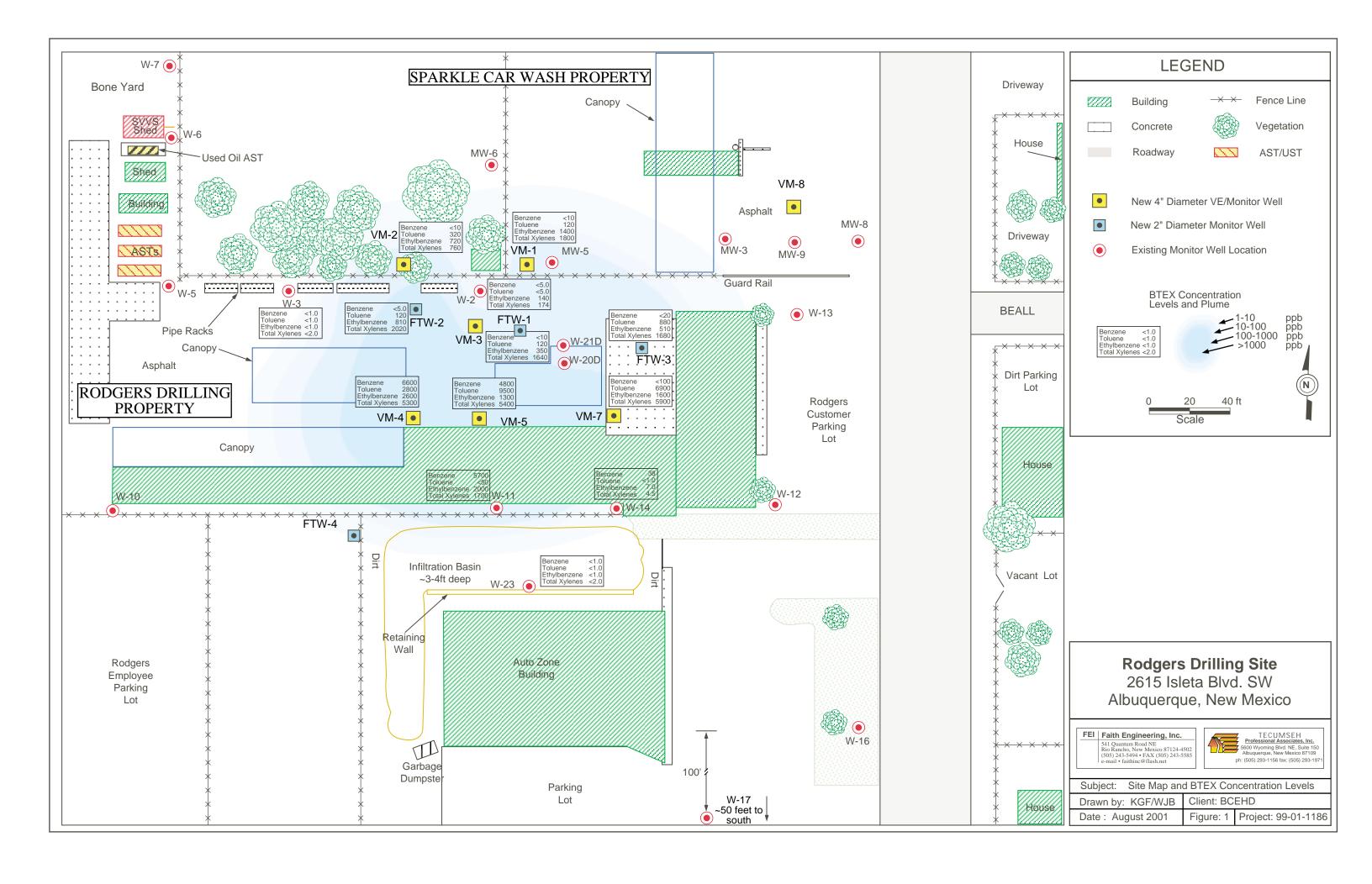
FEI recommends continuing site monitoring and sampling pursuant to the work plan approval letter dated

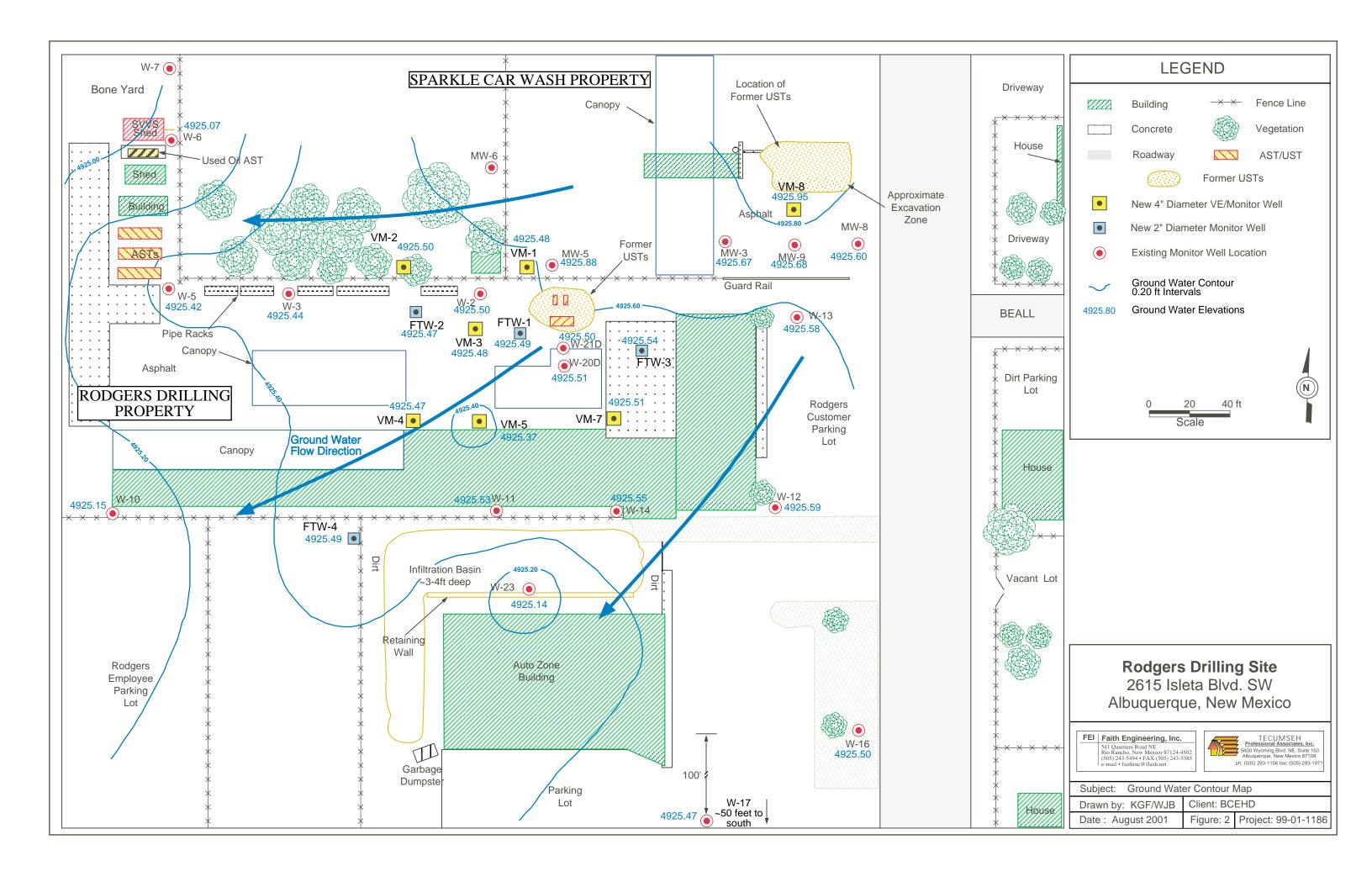
November 11, 1999, as amended to change the report submission dates. FEI also recommends

conducting a Tier Two RBCA evaluation to determine future actions. A new work plan for the Tier 2

evaluation was recently submitted. The next quarterly sampling report will be submitted on or about

October 15, 2001.





# TABLE 1 Rodger's • 2615 Isleta

# 99-01-1186-05 • NMED FACILITY #30287

**CURRENT GROUND WATER ANALYSIS RESULTS** 

		ORGANICS										I	NORG	ANIC	S		INDICATORS				
LOCATION	DATE SAMPLED	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	EDB	EDC	TMB	NAPHTHALENE	1-METHYL NAPHTHALENE	2-METHYL NAPHTHALENE	IRON	PHOSPHATE	SULFIDE	ALKALINITY as CaCO.	DISS 02	NITRATE	Hd	CONDUCTIVITY	TEMP
UNIT	S	μ <b>g/l</b>	μ <b>g/l</b>	μ <b>g/l</b>	μ <b>g/l</b>	μ <b>g/l</b>	μ <b>g/l</b>	ug/l	μ <b>g/l</b>	μ <b>g/l</b>	μ <b>g/l</b>	μ <b>g/l</b>	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l		μ <b>mhos/cm</b>	°C
STANDA	RDS	<u>10</u>	<u>750</u>	<u>750</u>	<u>620</u>	<u>100</u>	<u>0.1</u>	<u>10</u>			<u>30</u>		<u>1.0</u>					<u>10.0</u>			
W-2	07/02/01	< 5.0	< 5.0	140	174	5.8	< 5.0	< 5.0	1460	76	140	100	40	4.0	0.0	600	10.0	0.2	7.38	1751	23.3
W-3	07/02/01	< 1.0	< 1.0	< 1.0	< 2.0	31	< 1.0	< 1.0	< 2.0	< 1.0	< 5.0	< 5.0	3.0	4.0	0.0	250	2.0	0.6	6.98	2528	21.7
W-11	07/02/01	5700	< 50	2000	1700	< 50	< 50	< 50	390 †	430	< 250	< 250	1.5	5.0	0.0	500	5.0	0.6	7.03	1955	21.3
W-14	07/02/01	3.8	< 1.0	7.0	4.5 †	< 1.0	< 1.0	< 1.0	4.0	1.1	< 5.0	< 5.0	2.0	2.0	0.0	500	4.0	1.0	6.98	2523	21.6
W-23	07/02/01	< 1.0	< 1.0	< 1.0	< 2.0	2.0	< 1.0	< 1.0	< 2.0	< 1.0	< 5.0	< 5.0	2.0	2.0	0.0	500	1.0	0.8	6.93	2330	23.6
VM-1	07/02/01	< 10	120	1400	1800	< 10	< 10	< 10	1591	390	180	92	0.8	0.6	0.0	400	2.0	1.0	7.23	2098	23.7
VM-2	07/02/01	< 10	320	720	760	11	< 10	< 10	958	150	140	91	0.3	7.0	1.0	600	0.5	1.5	7.38	2269	22.1
VM-4	07/02/01	6600	2800	2600	5300	< 50	< 50	< 50	1680	450	59*	82*	14	5.0	0.0	500	1.0	0.0	6.82	2076	23.4
VM-5	07/02/01	4800	9500	1300	5400	< 50	< 50	< 50	1360	230	25*	42*	2.0	0.2	0.0	500	3.0	1.0	7.11	2048	23.7
VM-7	07/02/01	< 100	6900	1600	5900	< 100	< 100	< 100	1350	340	< 500	< 500	1.5	4.0	0.2	500	3.0	1.5	7.00	2330	24.1
FTW-1	07/02/01	< 10	120	350	1640	< 10	< 10	< 10	337	77	< 50	< 50	1.0	2.0	0.0	350	1.0	1.0	6.96	2345	22.9
FTW-2	07/02/01	< 5.0	120	810	2020	10	< 5.0	< 5.0	890	170	51	50	0.4	0.6	0.0	500	4.0	1.5	7.02	1939	22.2
FTW-3	07/02/01	< 20	880	510	1680	< 20	< 20	< 20	800	120	< 100	< 100	0.3	0.3	8.0	300	1.0	1.0	7.05	2594	23.6
TRIP BLANK	06/29/01	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 5.0	< 5.0			•		•		•		

<sup>† -</sup> See Appendix 1

Data checked//
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<sup>\* -</sup> Results Using EPA Method 8270 SIMS

# **TABLE 2a**

# Rodger's 2615 Isleta 99-01-1186-05 • NMED FACILITY #30287 HISTORICAL GROUND WATER ANALYSIS RESULTS/ORGANICS

						OR	GANIC	CS				
LOCATION	DATE SAMPLED	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	EDB	EDC	TMB	NAPHTHALENE	1-METHYL NAPHTHALENE	2-METHYL NAPHTHALENE
UNIT	S	μ <b>g/l</b>	μ <b>g/l</b>	μ <b>g/l</b>	μ <b>g/l</b>	μ <b>g/l</b>	μ <b>g/l</b>	ug/l	μ <b>g/l</b>	μ <b>g/l</b>	μ <b>g/l</b>	μ <b>g/l</b>
STANDA	RDS	<u>10</u>	<u>750</u>	<u>750</u>	<u>620</u>	<u>100</u>	<u>0.1</u>	<u>10</u>			<u>30</u>	
MW - 3	9/25/00	< 1.0	< 1.0	< 1.0	< 2.0	7.2	< 1.0	< 1.0	< 2.0	< 1.0	*	*
MW - 5	9/25/00	< 1.0	< 1.0	1.0	< 2.0	20	< 1.0	< 1.0	<4.4	< 1.0	*	*
MW - 8	9/26/00	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	*	*
W - 2	9/25/00	< 5.0	< 5.0	240	423	30	< 5.0	< 5.0	1640	130	*	*
	05/21/01	< 1.0	1.1	110	107	< 1.0	< 1.0	< 1.0	897	52	110	51
	07/02/01	< 5.0	< 5.0	140	174	5.8	< 5.0	< 5.0	1460	76	140	100
W - 3	9/25/00	< 1.0	< 1.0	2.5	4.5	29	< 1.0	< 1.0	< 2.0	< 1.0	*	*
	05/18/01	< 1.0	< 1.0	< 1.0	<2.0	26	< 1.0	< 1.0	<2.0	<1.0	<5.0	<5.0
	07/02/01	< 1.0	< 1.0	< 1.0	< 2.0	31	< 1.0	< 1.0	< 2.0	< 1.0	< 5.0	< 5.0
W - 5	9/25/00	< 1.0	< 1.0	< 1.0	< 2.0	4.3	< 1.0	< 1.0	< 2.0	< 1.0	*	*
W - 6	9/25/00	< 1.0	< 1.0	< 1.0	< 2.0	10	< 1.0	< 1.0	< 2.0	< 1.0	*	*
W - 10	9/25/00	< 1.0	< 1.0	< 1.0	< 2.0	1.7	< 1.0	< 1.0	< 2.0	< 1.0	*	*
W - 11	9/25/00	2300	< 20	1400	<1020	< 20	< 20	< 20	< 340	390	*	*
	05/21/01	6100	47	760	360	< 25	< 25	< 25	64	110	<130	<130
	07/02/01	5700	< 50	2000	1700	< 50	< 50	< 50	390 †	430	< 250	< 250
W - 12	9/26/00	< 1.0	< 1.0	1.0	< 2.0	< 1.0	< 1.0	< 1.0	19.4	1.8	*	*
W - 13	9/25/00	< 1.0	< 1.0	< 1.0	< 2.0	1.3	< 1.0	< 1.0	< 2.0	< 1.0	*	*
W - 14	9/25/00	3.2	< 1.0	41	4.9	1.7	< 1.0	< 1.0	<5.4	2.9	*	*
	05/21/01	38	1.6	21	16.8	< 1.0	< 1.0	< 1.0	34.4	4.3	<5.0	<5.0
	07/02/01	3.8	< 1.0	7.0	4.5 †	< 1.0	< 1.0	< 1.0	4.0	1.1	< 5.0	< 5.0

# **TABLE 2a**

Rodger's 2615 Isleta
99-01-1186-05 • NMED FACILITY #30287
HISTORICAL GROUND WATER ANALYSIS RESULTS/ORGANICS

						OR	GANIC	CS				
LOCATION	DATE SAMPLED	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	EDB	EDC	TMB	NAPHTHALENE	1-METHYL NAPHTHALENE	2-METHYL NAPHTHALENE
UNIT: STANDA		μ <b>g/l</b>	μ <b>g/l</b>	μ <b>g/l</b>	μ <b>g/l</b>	μ <b>g/l</b>	μ <b>g/l</b>	ug/l	μ <b>g/l</b>	μ <b>g/l</b>	μ <b>g/l</b>	μ <b>g/l</b>
		<u>10</u>	<u>750</u>	<u>750</u>	<u>620</u>	<u>100</u>	<u>0.1</u>	<u>10</u>			<u>30</u>	
W - 16	9/26/00	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	*	*
W - 17	9/26/00	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	*	*
W - 20D	9/26/00	< 1.0	< 1.0	< 1.0	< 2.0	5.4	< 1.0	< 1.0	< 2.0	< 1.0	*	*
W - 21D	9/26/00	< 1.0	< 1.0	< 1.0	< 2.0	6.1	< 1.0	< 1.0	< 2.0	< 1.0	*	*
W - 23	9/26/00	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	*	*
	1/16/01	ND	ND	ND	ND	ND	ND	ND	ND	ND	*	*
	05/21/01	53	< 1.0	2.3	<2.0	< 1.0	< 1.0	< 1.0	<2.0	1.7	<5.0	<5.0
	07/02/01	< 1.0	< 1.0	< 1.0	< 2.0	2.0	< 1.0	< 1.0	< 2.0	< 1.0	< 5.0	< 5.0
MW - 9	9/25/00	< 1.0	< 1.0	120	40	4.0	0.0	600	10.0	0.2	*	*
VM - 1	1/16/01	ND	760	1500	3300	ND	ND	ND	1790	840	*	*
	05/21/01	< 10	120	1400	1850	< 10	< 10	< 10	1271	270	140	110
	07/02/01	< 10	120	1400	1800	< 10	< 10	< 10	1591	390	180	92
VM - 2	1/16/01	ND	190	1300	2000	ND	ND	ND	1700	310	*	*
	05/21/01	< 10	510	1000	1310	< 10	< 10	< 10	1330	180	100	110
	07/02/01	< 10	320	720	760	11	< 10	< 10	958	150	140	91
VM - 3	1/16/01	ND	2800	1100	4400	ND	ND	ND	1240	210	*	*
VM - 4	1/16/01	6600	4100	2300	6600	ND	ND	ND	2020	360	*	*
	05/21/01	7200	1600	2200	3940	< 5.0	< 5.0	< 5.0	1260	410	120	150
	07/02/01	6600	2800	2600	5300	< 50	< 50	< 50	1680	450	59**	82**
VM - 5	1/16/01	8700	13000	1500	8500	ND	ND	ND	1610	270	*	*
	05/21/01	7700	14000	1600	6200	< 10	< 10	< 10	1520	320	170	170
	07/02/01	4800	9500	1300	5400	< 50	< 50	< 50	1360	230	25**	42**

# TABLE 2a Rodger's 2615 Isleta

# 99-01-1186-05 • NMED FACILITY #30287

HISTORICAL GROUND WATER ANALYSIS RESULTS/ORGANICS

						OR	GANIC	CS				
LOCATION	DATE SAMPLED	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	EDB	EDC	TMB	NAPHTHALENE	1-METHYL NAPHTHALENE	2-METHYL NAPHTHALENE
UNIT	s	μ <b>g/l</b>	μ <b>g/l</b>	μ <b>g/l</b>	μ <b>g/l</b>	μ <b>g/l</b>	μ <b>g/l</b>	ug/l	μ <b>g/l</b>	μ <b>g/l</b>	μ <b>g/l</b>	μ <b>g/l</b>
STANDA	RDS	<u>10</u>	<u>750</u>	<u>750</u>	<u>620</u>	<u>100</u>	<u>0.1</u>	<u>10</u>			<u>30</u>	
VM - 7	1/16/01	260	9600	2000	8500	ND	ND	ND	1960	380	*	*
	05/18/01	160	10000	2000	8200	< 50	< 50	< 50	1890	610	720	610
	07/02/01	< 100	6900	1600	5900	< 100	< 100	< 100	1350	340	< 500	< 500
FTW - 1	1/16/01	ND	440	900	5600	ND	ND	ND	1770	280	*	*
	05/21/01	< 20	200	560	2680	< 20	< 20	< 20	830	170	140	160
	07/02/01	< 10	120	350	1640	< 10	< 10	< 10	337	77	< 50	< 50
FTW - 2	1/16/01	ND	1100	1200	3100	ND	ND	ND	1350	300	*	*
	05/18/01	< 5.0	230	720	2030	< 5.0	< 5.0	< 5.0	840	150	68	69
	07/02/01	< 5.0	120	810	2020	10	< 5.0	< 5.0	890	170	51	50
FTW - 3	1/16/01	ND	2600	1100	4000	ND	ND	ND	1390	260	*	*
	05/18/01	< 20	2300	1300	4700	< 20	< 20	< 20	3160	380	210	310
	07/02/01	< 20	880	510	1680	< 20	< 20	< 20	800	120	< 100	< 100
FTW - 4	1/16/01	ND	ND	ND	ND	20	ND	ND	ND	ND	*	*

- \* Not Sampled or Tested
- \*\* Results Using EPA Method 8270 SIMS
- † Refer to Appendix 1

Data checked	/	,
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# **TABLE 2b**

Rodger's • 2615 Isleta SW

99-01-1186-05 • NMED FACILITY #30287
HISTORICAL GROUND WATER ANALYSIS RESULTS/INORGANICS

	Ĭ		IN	JORG	ANIC	S			IN	DICATO	RS
LOCATION	DATE SAMPLED	IR		PHOSPHATE	SULFIDE	ALKALINITY as CaCO.	DISS 02	NITRATE	H	CONDUCTIVITY	TEMP
_	IITS DARDS		g/l TOTAL- <u>1.0</u>	mg/l	mg/l	mg/l	mg/l	mg/l <u>10</u>		μ <b>mhos/cm</b>	°C
MW - 3	9/25/00	50	50	0.0	1.0	550	5.0	0.4	7.39	2887	24.6
MW - 5	9/25/00	0.3	0.3	1.5	0.2	250	0.5	1.0	7.23	2562	24.1
MW - 8	9/26/00	*	0.1	1.5	0.0	350	0.5	0.3	6.95	3065	24.8
W - 2	9/25/00	20	40	3.0	2.0	*	*	0.3	7.47	2441	23.2
	05/21/01	*	40	4.0	0.2	500	5.0	0.1	7.27	1368	29.0
	07/02/01	*	40	4.0	0.0	600	10.0	0.2	7.38	1751	23.3
W - 3	9/25/00	4.0	32	5.0	0.2	400	4.0	0.1	7.07	2358	21.7
	05/18/01	*	20	5.0	6.0	350	3.0	0.4	6.93	2666	19.3
	07/02/01	*	3.0	4.0	0.0	250	2.0	0.6	6.98	2528	21.7
W - 5	9/25/00	0.0	0.1	1.5	0.0	250	0.5	1.0	6.87	2268	22.2
W - 6	9/25/00	0.1	0.1	3.0	0.0	300	0.5	0.6	6.92	2538	21.6
W - 10	9/25/00	0.1	0.2	1.0	0.0	300	1.0	8.0	7.05	2095	19.6
W - 11	9/25/00	1.0	2.0	1.5	0.3	500	1.5	1.0	7.12	2113	21.6
	05/21/01	*	2.0	2.0	0.0	500	3.0	0.6	7.08	1838	20.5
	07/02/01	*	1.5	5.0	0.0	500	5.0	0.6	7.03	1955	21.3
W - 12	9/26/00	*	0.3	1.0	0.1	200	2.0	1.5	7.24	2716	23.3
W - 13	9/25/00	1.0	1.0	0.3	0.0	350	1.0	1.0	7.11	2844	26.4
W - 14	9/25/00	4.0	5.0	2.0	0.1	500	2.0	1.0	7.11	2495	21.8
	05/21/01	*	5.0	0.0	0.0	500	4.0	0.3	7.00	2271	22.2
	07/02/01	*	2.0	2.0	0.0	500	4.0	1.0	6.98	2523	21.6
W - 16	9/26/00	*	*	*	*	*	*	*	*	*	*
W - 17	9/26/00	*	*	*	*	*	*	*	*	*	*
W - 20D	9/26/00	1.0	1.0	0.3	0.4	350	1.0	1.0	7.22	2746	18.7
W - 21D	9/26/00	1.5	1.5	3.0	0.0	250	1.5	0.6	6.96	2903	19.1
W - 23	9/26/00	*	2.0	7.0	0.0	275	1.0	0.3	6.87	2397	23.0
	1/16/01	*	*	*	*	*	0.80	*	7.98	40.8	10.3
	05/21/01	*	3.0	2.0	0.0	350	2.0	0.6	6.91	1708	20.4
	07/02/01	*	2.0	2.0	0.0	500	1.0	0.8	6.93	2330	23.6
MW - 9	9/25/00	*	1.0	2.5	0.0	225	1.0	0.6	7.04	2660	26.4

# TABLE 2b

Rodger's • 2615 Isleta SW

99-01-1186-05 • NMED FACILITY #30287
HISTORICAL GROUND WATER ANALYSIS RESULTS/INORGANICS

			Iì	NORG	ANIC	S	INDICATORS				
LOCATION	DATE SAMPLED	IR	ON	PHOSPHATE	SULFIDE	ALKALINITY as CaCO.	DISS 02	NITRATE	Hd	CONDUCTIVITY	TEMP
UN	ITS	m	g/l	mg/l	mg/l	mg/l	mg/l	mg/l		μ <b>mhos/cm</b>	°C
STAND	DARDS	SOLUBLE	TOTAL- <u>1.0</u>	·				<u>10</u>			
VM - 1	1/16/01	< 0.02	7.56	< 0.5	250	930	0.83	< 0.5	8.07	125.4	13.1
	05/21/01	*	8.0	0.4	2.0	500	6.0	0.4	7.22	1066	20.8
	07/02/01	*	0.8	0.6	0.0	400	2.0	1.0	7.23	2098	23.7
VM - 2	1/16/01	< 0.02	3.30	< 0.5	280	820	0.74	< 0.5	7.81	100.8	14.0
	05/21/01	*	0.2	1.0	2.0	400	2.0	0.2	7.43	2324	20.9
	07/02/01	*	0.3	7.0	1.0	600	0.5	1.5	7.38	2269	22.1
VM - 3	1/16/01	0.07	14.3	< 0.5	400	710	0.43	< 0.5	7.63	231.0	15.5
VM - 4	1/16/01	0.15	11.7	< 0.5	1.1	990	0.63	< 0.5	7.29	166.2	13.6
	05/21/01	*	10	5.0	7.0	500	2.0	0.4	6.68	2080	21.4
	07/02/01	*	14	5.0	0.0	500	1.0	0.0	6.82	2076	23.4
VM - 5	1/16/01	0.05	7.98	< 0.5	240	780	0.82	< 0.5	7.45	203.0	14.1
	05/21/01	*	3.0	3.0	1.0	600	2.0	0.2	6.90	2039	20.4
	07/02/01	*	2.0	0.2	0.0	500	3.0	1.0	7.11	2048	23.7
VM - 7	1/16/01	0.03	2.19	< 0.5	52	880	1.20	< 0.1	7.60	194.0	13.2
	05/18/01	*	1.5	0.2	0.3	550	4.0	1.0	6.94	2120	21.2
	07/02/01	*	1.5	4.0	0.2	500	3.0	1.5	7.00	2330	24.1
FTW - 1	1/16/01	< 0.02	9.74	< 0.5	540	530	0.46	< 0.1	7.56	231.0	16.1
	05/21/01	*	2.0	2.0	0.0	350	2.0	0.4	7.03	2151	20.0
	07/02/01	*	1.0	2.0	0.0	350	1.0	1.0	6.96	2345	22.9
FTW - 2	1/16/01	< 0.02	8.80	< 0.5	390	470	0.51	< 0.5	7.58	89.7	15.5
	05/18/01	*	0.6	0.2	0.0	350	3.0	1.5	6.95	972	21.4
	07/02/01	*	0.4	0.6	0.0	500	4.0	1.5	7.02	1939	22.2
FTW - 3	1/16/01	< 0.02	2.97	< 0.5	740	600	0.49	< 0.1	7.51	254.0	16.4
	05/18/01	*	3.0	2.0	2.0	350	1.0	0.8	7.14	2241	21.8
	07/02/01	*	0.3	0.3	0.8	300	1.0	1.0	7.05	2594	23.6
FTW - 4	1/16/01	< 0.02	3.42	< 0.5	570	560	0.69	< 0.1	7.49	231.0	15.5

* - Not Sampled or Tested	
Data checked/	

# TABLE 3 99-01-1186-01 • Rodger's 2615 Isleta Blvd NMED FACILITY #30287

# SUMMARY OF GROUND WATER ELEVATION MEASUREMENTS

WELL	ELEVATION	DATE	STATIC	WATER LEVEL	(+) = RISING
NUMBER	(feet above datum)		(feet BG)	(feet AD)	(-) = FALLING
MW-3	4934.51	9/25/00	8.63	4925.88	
		5/18/01	8.46	4926.05	0.17
		7/2/01	8.84	4925.67	-0.38
MW-5	4933.36	9/25/00	7.68	4925.68	
		5/18/01	7.48	4925.88	0.20
		7/2/01	7.48	4925.88	0.00
MW-8	4933.43	9/26/00	7.64	4925.79	
		5/18/01	7.46	4925.97	0.18
		7/2/01	7.83	4925.60	-0.37
MW-9	4934.10	9/25/00	8.22	4925.88	
		5/18/01	8.03	4926.07	0.19
		7/2/01	8.42	4925.68	-0.39
W-2	4933.56	9/25/00	7.88	4925.68	
		5/18/01	7.67	4925.89	0.21
		7/2/01	8.06	4925.50	-0.39
W-3	4932.68	9/25/00	7.07	4925.61	
		5/18/01	6.85	4925.83	0.22
		7/2/01	7.24	4925.44	-0.39
W-5	4932.28	9/25/00	6.69	4925.59	
		5/18/01	6.48	4925.80	0.21
		7/2/01	6.86	4925.42	-0.38
W-6	4931.69	9/25/00	6.46	4925.23	
		5/18/01	6.24	4925.45	0.22
		7/2/01	6.62	4925.07	-0.38
W-10	4932.64	9/25/00	7.11	4925.53	
		5/18/01	6.92	4925.72	0.19
		7/2/01	7.49	4925.15	-0.57
W-11	4933.68	9/25/00	7.98	4925.70	
		5/18/01	7.78	4925.90	0.20
		7/2/01	8.15	4925.53	-0.37
W-12	4934.13	9/26/00	8.34	4925.79	
		5/18/01	8.17	4925.96	0.17
		7/2/01	8.54	4925.59	-0.37
W-13	4933.68	9/25/00	7.93	4925.75	
		5/18/01	7.73	4925.95	0.20
		7/2/01	8.10	4925.58	-0.37
W-14	4934.44	9/25/00	8.72	4925.72	
		5/18/01	8.53	4925.91	0.19
		7/2/01	8.89	4925.55	-0.36
W-16	4933.13	9/26/00	11.06	4922.07	
		5/18/01	7.28	4925.85	3.78
		7/2/01	7.63	4925.50	-0.35

# TABLE 3 99-01-1186-01 • Rodger's 2615 Isleta Blvd NMED FACILITY #30287

# SUMMARY OF GROUND WATER ELEVATION MEASUREMENTS

WELL NUMBER	ELEVATION (feet above datum)	DATE	STATIC (feet BG)	WATER LEVEL (feet AD)	(+) = RISING (-) = FALLING
W-17	4932.28	9/26/00	6.63	4925.65	
		5/18/01	6.46	4925.82	0.17
		7/2/01	6.81	4925.47	-0.35
W-20D	4934.15	9/26/00	8.43	4925.72	
		5/18/01	8.27	4925.88	0.16
		7/2/01	8.64	4925.51	-0.37
W-21D	4934.19	9/26/00	8.43	4925.76	
		5/18/01	8.29	4925.90	0.14
		7/2/01	8.68	4925.51	-0.39
W-23	4931.84	9/26/00	6.51	4925.33	
		5/18/01	6.24	4925.60	0.27
		7/2/01	6.70	4925.14	-0.46
VM-1	4933.00	1/16/01	7.00	4926.00	
		5/18/01	7.17	4925.83	-0.17
		7/2/01	7.52	4925.48	-0.35
VM-2	4932.84	1/16/01	7.12	4925.72	
		5/18/01	6.96	4925.88	0.16
		7/2/01	7.34	4925.50	-0.38
VM-3	4933.23	1/16/01	7.38	4925.85	
		5/18/01	7.38	4925.85	0.00
		7/2/01	7.75	4925.48	-0.37
VM-4	4933.30	1/16/01	7.45	4925.85	
		5/18/01	7.45	4925.85	0.00
		7/2/01	7.83	4925.47	-0.38
VM-5	4933.28	1/16/01	7.56	4925.72	
		5/18/01	7.55	4925.73	0.01
		7/2/01	7.91	4925.37	-0.36
VM-7	4934.09	1/16/01	9.23	4924.86	
		5/18/01	8.23	4925.86	1.00
		7/2/01	8.58	4925.51	-0.35
VM-8	4933.74	5/18/01	7.77	4926.32	
		7/2/01	8.14	4925.95	-0.37

# TABLE 3 99-01-1186-01 • Rodger's 2615 Isleta Blvd NMED FACILITY #30287

# SUMMARY OF GROUND WATER ELEVATION MEASUREMENTS

WELL NUMBER	ELEVATION (feet above datum)	DATE	STATIC (feet BG)	WATER LEVEL (feet AD)	(+) = RISING (-) = FALLING
FTW-1	4933.59	1/16/01	7.74	4925.85	
		5/18/01	7.78	4925.81	-0.04
		7/2/01	8.10	4925.49	-0.32
FTW-2	4932.94	1/16/01	7.10	4925.84	
		5/18/01	7.09	4925.85	0.01
		7/2/01	7.47	4925.47	-0.38
FTW-3	4934.10	1/16/01	8.21	4925.89	
		5/18/01	8.21	4925.89	0.00
		7/2/01	8.56	4925.54	-0.35
FTW-4	4932.79	1/16/01	6.93	4925.86	
		5/18/01	6.94	4925.85	-0.01
		7/2/01	7.30	4925.49	-0.36

Data checked	/

# TABLE 4 99-01-1186-05 • Rodger's 2615 Isleta Blvd. SW NMED FACILITY #30287

Summary of Tasks Performed in the Field

DATE	FIELD TECH.	DESCRIPTION	
9/21/00	KGF, MB	Initial sampling round(1st Qtr)-all existing wells, site survey.	
10/12/00-10/13/00	BB, TC	Drilling on site, soil samples taken.	
11/28/00	BB, TC	Drilling on site, soil samples taken.	
1/16/01	BB, SG	Collect GW samples, new wells	
2/21/01	BB, TC	Drilling on site, soil samples taken.	
5/18/01 & 5/21/01	KL, MB	2nd Quarterly sampling round, 13 selected wells.	
7/2/01	KL, MB	3rd Quarterly sampling round, 13 selected wells, EPA Method 8270 on two wells.	

Data checked \_\_\_\_\_ / \_\_\_\_\_

# APPENDIX 1

Sampling Protocol

Prior to any sampling, well development or purging, all monitor wells were sounded for depth to ground water. FEI used an electronic sounder with an accuracy of  $\pm 0.01/\text{foot}$ . Ground water elevations (from datum) were determined using survey data collected during the Hydrogeologic Investigation.

Prior to any sampling event, a minimum of three (3) well bore volumes were purged from each well using a Grundfos Sampling Pump. Samples were collected in HCl preserved VOAs and placed on ice in a container for delivery to Pinnacle Laboratories, in Albuquerque, New Mexico, for analyses. The ground water samples were analyzed for Benzene, Toluene, Ethylbenzene, and total Xylenes (BTEX), Methyl-t-Butyl Ether (MTBE), TMB, Ethylene Dibromide (EDB), Ethylene Dichloride (EDC), Naphthalene, 1-Methylnaphthalene and 2-Methylnaphthalene by EPA Method 8260 PBMS (expanded napthalenes) and for polynuclear aromatics (PNA) by EPA Method 8270 SIMS in wells VM-4 and VM-5. Natural attenuation indicator parameters iron, phosphate, sulfide, alkalinity, pH, dissolved oxygen, conductivity, temperature and nitrate were analyzed and measured in the field using the appropriate field test kits and equipment. All EPA-approved sampling protocols were observed and a chain of custody was maintained on all samples.

In an effort to more realistically characterize the analytical data generated from the quarterly sampling, FEI has adopted a reporting standard of multi-component compounds like total xylenes. Detection limit values in a multi-component compound that are reported as below detection limits and are less than 10 percent of the lowest detectable value will not be added-in as part of the total concentration value reported. Detection limit values greater than 10 percent of the lowest detectable value will be added-in as part of the total concentration value reported. This will eliminate confusion regarding the "less-than" symbols where concentrations have been detected.

# APPENDIX 2

Field Notes

# APPENDIX 3

**Analytical Laboratory Reports**